FARM MANAGEMENT for Part-Time Farmers in Nova Scotia

Nova Scotia

DEPT. OF AGRICULTURE AND MARKETING

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INTRODUCTION

From the information set out in Chapter 1, it is obvious that part-time farmers have an important role in Nova Scotia's agricultural development. The purpose of this publication is to help this group of farmers fill that role wisely and efficiently.

In a narrow sense, farm management is sometimes taken to mean business management, especially in regard to farm records and bookkeeping. Although records are essential, they are only one part of the management process. Management is used here in the broadest sense of making decisions at all stages of the farm enterprise. To make wise decisions the farm manager must obtain and then analyze sound information. It is in this precise area that some part-time farmers have fallen short. Even early decisions to purchase a farm or start a particular type of enterprise have too often been made hastily and without sufficient information. Such decisions often cause grief farther down the road.

It is the hope of the authors that this publication will assist in the management or decision making process. It is organized in four sections:

1) Why farm? Getting goals and motives straight.

2) Which enterprise? A look at the advantages and disadvantages of all of the enterprises suitable for part-time farmers in Nova Scotia.

3) Management decisions required once an enterprise has been selected.

4) Farm records, income tax and insurance.

This publication is based on "Farm Management for Part-Time Farmers" by John Brockett of Pennsylvania State University. However, the American material was revised, new material written and illustrations added by a team of specialists and other staff of the N. S. Department of Agriculture and Marketing. The Christmas Tree enterprise was written by the Christmas Tree Specialist, N. S. Department of Lands and Forests.

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CHAPTER 1

The Part-Time Farmer

A part-time farmer is a person who operates a farm but receives the major portion of his income from non-farm sources.

According to the 1981 census, over 37% of Nova Scotia farmers had more than 96 days of off-farm work and could be classed as part-time farmers. As a group, they controlled 25% of all farm capital and 24% of the improved land in the province. Using a different set of statistics*, part-time farmers account for about 10% of total gross farm income.

Part-time farmers are as individualistic as full-time farmers. Their reasons for farming are as varied as the people involved. But most of them are people who want to farm and hope to add to their off-farm income through farming. A substantial number are interested in operating on a full time basis eventually.

Anyone considering farming should remember that an operating farm is a business. It needs capital, labour, and management just like any other business. The success of the farm depends on effectively blending these resources with other resources such as land, buildings, and equipment. Individuals thinking of part-time farming should first consider the pros and cons of operating a farm themselves. They should also examine several types of enterprises to determine which one would best fit their own goals and farm resources.

Advantages and Disadvantages of Operating a Farm

Advantages of farm life depend partly on family goals. The farm provides open space and learning experiences for the children. It can provide a measure of security and a hedge against inflation. If the family is able to furnish the necessary labour and management and chooses the right enterprise, the farm could supplement cash income. A family can usually live a little less expensively on a farm than in town, especially if it produces much of its own food. However, this saving may be more than offset by higher transportation costs if members of the family take part in many activities in town. The physical labour of the farm can have a healthful effect on white collar workers and professional people. Unfortunately, this same physical labour can become overpowering and a drudgery to those who are not accustomed or conditioned to it.

Disadvantages also depend partly on family goals. Advantages for some become disadvantages for others (Example: the distance from town may mean privacy for some people but isolation for others). Farm life can become confining and boring to family members, particularly if they select an enterprise that does not fit

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*Farms with less than $25,000 gross income. Most of these are part-time farms.

their goals and desires. Loss of a crop or an animal is always somewhat painful. But it may be even more devastating to a part-time farm family who may not have the commercial farmer's philosophy on these inevitable losses. Losses due to market conditions may be catastrophic to people who are unaccustomed to farm price fluctuations.

The ultimate success of a farm operation depends on how well the individual or family members are able to cope with disadvantages, or how strongly they feel the advantages of farm life outweight the disadvantages.

Role of a Manager

Many farmers think if they work hard and long their farm venture will automatically succeed. They do not consider the role of management in the business. Management is required in varying degrees in all successful farm enterprises.

The primary job of any manager is making decisions. The manager must obtain and analyze information needed to make a decision and carry it out to the best advantage for the business. He must also accept the consequences of his decision.

A number of management tools are available to farm managers as aids in decision making.

1. Records are one of the most important tools for any type of management decision.

2. Technical information from publications, magazines and short courses can help a farm manager explore alternative decisions as well as make decisions. A first level of information about the various enterprises suited to Nova Scotia is given in this publication. There is also a list of selected references for those who wish to dig deeper. Short courses and home study courses are offered by the Vocational Office of the Nova Scotia Agricultural College. Agricultural Representatives will often arrange for special programs or courses in a local area on request.

3. A soil map, and a farm plan drawn from an enlarged aerial photograph can help a manager select cropping programs and livestock enterprises that fit the available soil and other physical resources, as well as plan rotations.

4. Soil tests and forage tests, available free of charge, can help a farmer balance the nutrients required by crops and livestock. Consult your county agricultural representative for details.

5. Farm business analysis can help an established operator measure possible consequences of alternative decisions and evaluate past decisions.

6. Counselling services are available through agricultural representatives and specialists in the Department. Counselling may be useful at any stage in the development of a farm enterprise but it is especially important in the beginning, even before an enterprise has finally been selected.

7. Finally, drawing on the experience of other farmers can help a part-time farmer avoid costly mistakes.

CHAPTER 2

Should We Farm?

A person interested in becoming a part-time farmer has two decisions to make before he can even start to operate a farm business properly. The first question is "Why should I operate a farm?" The second is to decide on the type of enterprise. Both decisions require considerable thought and research into motives, family goals, and available resources.

Family Goals

A farm is a family proposition, especially if the family members are expected to furnish part or all of the labour involved in operating it. Therefore, both the decision to farm and selecting a particular enterprise involve family goals or desires. Outside activities as well as off-farm jobs should be factors to consider.

Farm families should take account of both present and possible future interest areas. Off-farm activities do not prevent a family from farming. However, the nature of off-farm activities and the time involved should be considered, especially when selecting an enterprise.

The usual goals to consider are: (1) increased family income, (2) retirement income or retirement home, (3) investment, and (4) recreation. To meet these goals, the farm family may have to borrow money. Remember, credit is borrowed money that can be used to make money. The repayment is an obligation which makes it a debt. Many planned retirement homes are sold well before retirement because the family became too ambitious and overloaded itself with debt. If investment is a primary long range goal, remember that farm buildings seldom enhance the value of a farm in proportion to the cost of the building, especially if the building is less than ten years old.

Other factors to consider are family members' likes and dislikes, possible health problems, and personal capabilities.

Should We Farm?

Why do family members want to farm? What is the farm expected to give to them? Take a few minutes now to gather family members together and as a family, carefully answer the following questions. This simple exercise may save you much grief in the years ahead.

1. Does the family really want just a place to live in the country, with farming a secondary issue? _____

_____

2. If your answer to question 1 is yes, would your family be better off just living on a farm, perhaps having a garden, but renting out most of the land to someone else? _____

3. Is the farm expected to provide part of the family income or will it be mainly a hobby? _____

4. If the farm is expected to provide part of the family income, you are talking about farming as a business. Most farm businesses will not provide an immediate profit. Can you afford to operate the farm at a loss for a few years? _____

5. How much of your off-farm income can you afford to subsidize the farm enterprise until such time as it begins to show a profit?

6. How much time and labour will each member of the family be expected to contribute? _____

CHAPTER 3

Choosing an Enterprise

All farmers when choosing an enterprise should consider: (1) their available resources, (2) which alternatives best fit their goals, and (3) how big their resources will allow them to get in any given enterprise.

Available resources are those items which are owned at present or can be readily obtained. A summary of resource requirements is given in tables under the Livestock and Crop enterprise sections.

Labour

The labour requirement should be considered from several viewpoints: (1) the amount of labour required and when most of it will be needed (peak season), (2) the skills needed to handle a particular enterprise and the need for labour to make management decisions, (3) the importance of doing a job within a given time period and possible conflicts with other tasks in the overall operation, and (4) in the case of crops, the relative amount of manual labour required and available.

The same criteria used for labour on the farm should be applied to the off-farm job to determine how well the two fit together.

Land

Both quantity and quality of available land are important to a farmer in choosing a crop enterprise. Some crops require soils that are deep, well drained and relatively free from stones; others can be successful on farms with a broad range of soils; while still others may require some special factors such as topography or air drainage that make soil quality itself secondary. Tree fruits, for example, would probably not do well on river bottom soils because the same richness that would produce bumper crops of corn or vegetables would make trees too shallow rooted and top heavy, resulting in possible excessive wind damage. They would do better on a hillside where good air movement would lessen frost damage and winter freeze danger.

Some enterprises such as beef cattle may require large areas to be economical because of market demands, low unit returns, and/or capital investment. Other enterprises that use land more intensively such as berry crops, require many fewer hectares to be equally feasible.

Water and Drainage

A reliable supply of well water is necessary for any livestock or poultry enterprise. Although in Nova Scotia rainfall is generally sufficient for most field crops, there are a few for which irrigation should be considered. However, returns from the enterprise must justify the cost of the system. Many soils require drainage in order to give maximum crop yields.

Markets

Too often farmers concern themselves only with production and do not pay enough attention to marketing. Markets should be considered early in the planning process, before the final choice of enterprise is made. If you can't sell your product at a profit, there is no point in producing it.

When considering markets, think about (1) the means of transportation and the costs to get the product to a particular market (2) financial returns from the market, and (3) market limitations - such things as the number of customers within the market area, local demand for the product, or perishability of the product.

Capital

Capital often becomes the restricting resource in farming. In many cases a part-time farm family might be wise to start small or within the limits of readily available capital. After they have developed the experience and skill required they can expand and operate the farm on a larger scale. This would also give them the chance to see if they have the necessary enthusiasm and desire to continue.

Credit is one way to increase available capital. If used wisely, credit can become a valuable asset to the business. If misused it can soon turn into a personal catastrophe. Farm managers should try to keep credit payments within the bounds that their farm business can handle. Part-time farmers can use part of their off-farm income to make farm credit repayments. However, caution is needed because this may lead to a lower living standard, which may conflict with the family's goal of increasing income. Farmers who use credit should decide: (1) how much they need to do the job, (2) what it will accomplish, (3) where and when they will get the money, (4) what it will cost, and (5) how it will be paid back.

The normal sources of credit are banks and other private lending institutions, and both the federal and provincial governments. Over the years, the Nova Scotia Farm Loan Board has had a loan policy for part-time farmers. Before approaching the Board however, a prospective borrower would do well to (i) consider seriously the various issues raised in this publication and (ii) carefully prepare a development plan for the enterprise he has decided on.

Some enterprises such as tree fruit and highbush blueberries require considerable capital expenditure long before a saleable item is produced. Other enterprises require several types of capital expenditures, that is, the capital items may have different lengths of time over which the cost may be amortized. Still other enterprises will require very little capital expenditure if basic land and buildings are available.

Machinery and Equipment

Machinery and equipment can reduce labour but they cost money. The cost should be carefully weighed against the capability of the equipment to produce income and the hours of equipment use.

There is a saying which applies especially to part-time farming. "What you don't spend, is what you make". Too much machinery and equipment for the small amount of production is one of the most important reasons part-time farmers show little or no profit.

There are no easy answers to this problem but before purchasing a full range of new equipment, the small scale farmer might consider (1) having field work done on a custom basis, (2) if a livestock farmer, purchasing hay and concentrating on pasture improvement (3) cooperative purchase and use of equipment by perhaps two or three individuals (4) purchase of reliable used equipment.

Buildings

Buildings can be an asset to nearly any farm operation. However, some enterprises can make use of nearly any existing structure with little or no additional cost, while others require specialized expensive structures. Available buildings may be considered when selecting an enterprise, but the building should not completely determine the choice of enterprise.

Management

Some enterprises require relatively high involvement and supervision by management. They could be called intensely managed. Other enterprises require intermittent periods of high management. In many cases these enterprises would be more compatible with most off-farm job situations. Some enterprises require only occasional high management involvement or little beyond the planning process.

What Size?

Each enterprise has a size that might be judged as the minimum to be considered economical or practical even for a part-time operation. This is the size that will: (1) pay the cash costs of the enterprise itself, (2) justify the family's capital and labour to support the enterprise, (3) provide enough saleable units to give the family access to at least one market, and (4) be potentially profitable.

Variations in minimum size occur within as well as among enterprises depending on additional capital requirements, degree of mechanization desired, legal regulations, and competition for markets.

CHAPTER 4

Advantages and Disadvantages of Various Crop Enterprises

A summary of the requirements, costs and returns, and minimum size of each enterprise is given in Table A at the end of this chapter. Caution is needed in interpreting this table, especially the dollar figures, since circumstances can vary greatly from farm to farm, and market prices fluctuate. However, the figures should be useful at least as a starting point, providing food for thought when a person comes to grips with the realities of a particular enterprise.

Tree Fruit

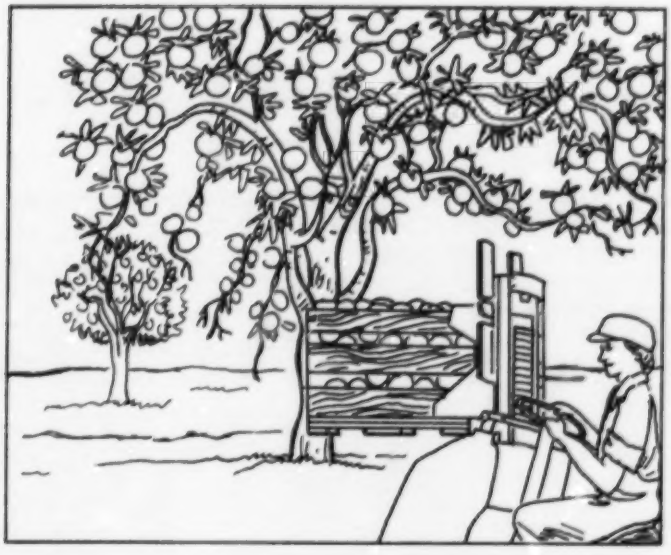
Although small orchards have been planted from Yarmouth to Sydney, most of the province's commercial tree fruit production is located in the Annapolis Valley. This concentration in the Valley is due to suitable climate and soil conditions along with the location of processing plants and research facilities. The district around Bridgewater is considered to be the next best area with good potential.

In the limited areas elsewhere where climate and soil are suitable, commercial production is possible, but markets place a restriction on the size of operation. There is also the disadvantage of lack of grower contact, while distance reduces the availability of extension services.

Before planting an orchard, careful planning and preparation are required. An orchard is a long-term enterprise which requires a large capital outlay. A grower cannot afford to make serious mistakes.

(i) First determine if you have a suitable site. Fruit trees require a well-drained soil and will not tolerate wet feet. They also require a rooting depth of one meter for good anchorage. Soils with hardpans, compacted soil, bedrock or imperfect drainage do not make suitable soils. In some cases however, imperfect soils can be corrected by means of tile drainage, ripping and land forming.

(ii) Climate is very important as extreme fluctuations in temperature during the winter can injure or kill trees. Late spring frost can kill or injure flower buds, while early fall frost can injure the fruit. Therefore, check on the frequency of frost and temperatures in past years for your area prior to planting. The length of the growing season is also important as early apple varieties require 70-100 days from bloom to harvest while varieties such as Red Delicious require 140-160 days. If the season is too short and cool, they will not mature properly.



(iii) Determine where and how the fruit is to be marketed: U-Pick, roadside stand, packing house, processing firm or retail stores.

If you have a suitable site, then consideration should be given to the types of fruit to be grown. Apples are hardiest and are the major tree fruit in Nova Scotia, followed by pears, plums, cherries and peaches in order of importance. There is much greater risk in growing the stone fruits. Quite often peach growers obtain only one good crop in every four years because of weather conditions.

The present trend in Nova Scotia is to plant apple trees with semi-dwarf rootstocks which reduce tree size by 20-30%. This requires 247-494 trees per hectare. If dwarf rootstocks are used, tree numbers increase. However, the most dwarfing rootstocks have met with only limited success in the Province. Peaches, apples grown on semi-dwarf or dwarf rootstocks, and plums will take 3 to 5 years from the time of planting until they begin to bear sizeable amounts of saleable fruit. Apples grown on standard rootstocks, pears and cherries take considerably longer to come into production.

The initial cost of starting an orchard (pre-planting and year of planting), including cost of trees, fertilizer, lime, sprays and labour is $3,000 to $5,000 per hectare. In the case of apples, it will require an additional investment of $1,700 to $2,000 per hectare to bring the orchard into production. Also using apples as an example, it will take 8-10 years before it will show a net profit. The ability to show a profit will depend upon the horticultural capability of the grower, the growing season, the type of tree fruit grown and the returns received from the fruit. The potential net cash returns range from $250-$2,000 per hectare per year.

As the size of the orchard increases, so will the need for machinery. A tractor, orchard sprayer and mower will eventually be required. In the first few years a grower can get by with a back pack sprayer but as the trees become larger it will become inadequate. There are many types and sizes of orchard sprayers and a grower is advised to purchase the sprayer that best fits the size of his enterprise. Generally there is no need to invest in storage or buildings unless the operation becomes quite large. Most of the labour can be provided by the family. However, additional labour may be required during harvest. Generally local labour can be found to assist with the harvesting.

For assistance in planning an orchard contact the Tree Fruit Specialist, Department of Agriculture and Marketing, Kentville.

References:

Apple Growing in Eastern Canada. Agriculture Canada, Pub. 1551.

Orchard Fertility. Pub. A. Hort C-1

Stocks for Apples. Pub. A. Hort C-2

Harvesting Apples. Pub. A. Hort C-3

Pruning and Training - The Apple Orchard. Pub. A. Hort C-8

Planting and Care of the Young Orchard. Pub. A. Hort C-9

Guide to Chemical Weed Control in Orchards. Pub. A. Hort C-11

Chemical Thinners and Other Growth Regulators for Fruit Trees. Pub. A. Hort 15

155 System. Pub. A. Hort C-16

Preparing for the New Orchard. Pub. ACC-1217

Apple Scion Varieties and Strains. Pub. A. Hort C-5

Vocational Courses:

For information contact the Vocational Office, N.S.A.C., Truro.

MAPLE PRODUCTS

Many people own land which has an unused resource - sugar maples. Once these maples reach tappable size (25 cm at 1.37 meters above ground level) they will yield sap that can be made into syrup each year for over 100 years, provided of course that the woodlot is not devasted by storm or insects.

Production of maple is seasonal (a 4 to 6 week period in March and April). Nova Scotia maple producers either work off the farm during most of the year, then take holidays in the spring to make maple products, or are farmers who include maple production as one of their farming enterprises.

In Nova Scotia only two species of maple produce a sap which is boiled down to make syrup or other products - sugar maple (also

called rock or hard maple) and red maple (also called soft, swamp or white maple). The sugar maple is considered the better of the two, as it usually yields sweeter sap that can be made into a better quality syrup.

Maple production is on the increase in Nova Scotia and the industry has more than doubled in size (number of taps) since the first half of the 1970's. Approximately 70% of production is in Cumberland County, but increases in production are taking place in Colchester, Halifax and Pictou Counties. However, there is potential for production in much of Nova Scotia.

The collection of maple sap used to be very labour intensive. But plastic tubing systems have made it so that one person can collect sap from many more trees than before. As well, energy and labour saving devices have been developed for sap processing.

Studies in various maple producing areas have shown that to be economically viable (if an operation is being started new), maple will have to be produced from a minimum of 2,000 taps. One to four taps per tree are possible depending on tree size. From 2,000 taps, an average of 1,000 litres of syrup should be produced. In 1982, 1,000 litres were worth approximately $6,250.00 to the producer. Maple sap can be collected from a sugar bush owned by the producer, or rented from individuals, the crown or private companies.

The marketing of maple products in Nova Scotia is definitely not a constraint at the present, but possibly could be in the future. The Maple Producers' Association of Nova Scotia and the Nova Scotia Department of Agriculture and Marketing have been promoting, and will continue to promote, maple products to the Nova Scotia consumer. As well, the Maple Festival of Nova Scotia, with its pancake and maple suppers generates much interest in maple production and creates a lot of demand for maple products. An increase in the demand for maple products is noticeable each year.

References:

Production of Maple Sirup and Other Maple Products, by F. E. Winch, Jr. and R. R. Morrow. New York State College of Agriculture and Life Sciences, Cornell University, Ithaca, New York, Info. Bull. 95. Cost . 50¢

Sugar Bush Management, by R. R. Morrow. New York State College of Agriculture and Life Sciences, Cornell University, Ithaca, New York, Info. Bull. 110. Cost $1.00.

Courses:

For information on the 5 day vocational course, contact the Vocational Office, N. S. A. C., Truro.

Evening information meetings arranged at the request of County agricultural representatives.

Greenhouse Crops

In general, year-round greenhouse production is not suitable for part-time farmers for the following reasons:

i) high capital and operating costs.

ii) the high degree of management skills required.

iii) difficulties in marketing cut flowers and pot crops due to perishability and precise market dates for holidays and special occasions such as Christmas and Mother's Day.

iv) the cost/price squeeze since the mid 1970's, with product prices not increasing in relation to the rapid increase in prices for fuel and labour. For example, vegetable production (consisting mainly of tomatoes and English cucumbers) has actually been declining because fuel can account for 25-35% of the operating budget, and competition from imported produce has restricted price increases.

However, production of bedding plants from January to July, with direct sale to the public, continues to be an area where small business can be involved. Sales of bedding plants have increased rapidly, and so has competition. But there will continue to be an opportunity for a grower with a local market and a high quality product.

There is interest in extending the growing season for vegetable crops such as lettuce, peppers, cauliflower and broccoli in a low cost plastic tunnel house. Research is investigating the economics of extending the production/marketing season by two months in the spring and two months in the fall, by a frost protection structure where minimal heat can be added. These vegetables remain in the tunnel house until harvest. A farming enterprise with a pick-your-own or market stand may benefit from the longer selling period a tunnel house can provide.

Publications available from N. S. Department of Agriculture and Marketing:

Tips on Growing Bedding Plants. Co-operative Extension Services, The Ohio State University, Columbus, Ohio 4310

Small Greenhouses. Province of British Columbia, Ministry of Agriculture.

Pesticide Recommendations for Greenhouse Ornamentals. Ontario Ministry of Agriculture and Food, Pub. #381.

Hobby Greenhouses. N.S. Department of Agriculture & Marketing, Horticulture & Biology Services.

Plastic Greenhouse, Planning, Construction, Heating & Ventilation. N. S. Department of Agriculture & Marketing, Horticulture & Biology.

Other References:

The Ball Bedding Book. 1977 Vic Ball. Ball-Superior Ltd., 1155 Birchview Dr., Mississauga, Ont. L5H 3E1

The Ball Red Book. 13 th ed. 1972 Vic Ball (ed.)

Bedding Plants. 1976, Mastalerz J. W. Pennsylvania Flower Gardens, 103 Tyson Boulevard University Park PA 16802

The Complete Greenhouse Book. Peter Clegg & Berry Watkins. Garden Way Publication, 1981, Charlotte, Vermont 05445

For information on tunnel house production contact the Greenhouse Specialist or Vegetable Specialist, N.S.D.A.M., Kentville.

Vegetables

Vegetable producers in Nova Scotia have at least four different markets:

1) Seasonal truck garden crops.

2) Storage vegetables.

3) Processing vegetables.

4) Specialty crops.

The fresh produce market usually has a higher market value per unit and usually requires a very high quality product. The processing market is geared more to those growers with large acreages of high quality land situated close to processing plants. The processing market though is less subject to over-production and daily price fluctuations, can handle larger quantities of a standard grade, and can provide a more stable price. Some farmers grow both fresh and processing vegetables to spread the marketing risk.

Most vegetable growers in Nova Scotia are not full time growers. Most processing growers tend to be livestock farmers and most fresh market growers tend to be fruit growers, woodlot managers, and part-time farmers. Very few farms operate 100% on funds generated from vegetable enterprises.

Soils for vegetable crops are ideally sandy loams which are level, stone free and without hardpans. Heavy (clay) soils are usually late, not adapted to root crops with the exception of rutabagas, and hard to mechanize. Rolling and stony land is difficult to mechanize but can be adapted to small areas where there

are reasonable dollar returns. Good drainage is essential for all vegetable crops. Irrigation is beneficial in many respects, but involves high capital costs. In Nova Scotia irrigation is used on less than 5% of the fresh vegetable acreage, mainly by producers who grow strawberries as well.

In general, vegetables have a net cash return similar to berry crops. They also have the same type of labour requirements. Some crops can be grown for both fresh and processing markets. These are the large volume crops such as carrots, rutabagas, cabbage, potatoes, peas, baking beans and tomatoes. Other crops such as cucumbers, squash, parsnips, beets, cauliflower and broccoli have a limited consumer appeal and the farmer may have to overproduce during the peak of harvest in order to have saleable products for the early and late markets. Some volume import crops are not grown in large acreages at the present time. Most of these are the salad crops such as lettuce, spinach, celery and peppers. All require proper cooling and packaging and are highly perishable. They do however, provide a basis for the development of central assembly and volume marketing, particularly in the concentrated areas of vegetable production in the province.

Unlike the salad crops, potatoes, squash, rutabagas, carrots and cabbage (the storage crops) can be marketed 8-12 months of the year.

To steadily supply the seasonal truck garden crops such as fresh green and wax beans, consecutive plantings must be made which will provide a steady income over several months and spread the risk of a market glut and a complete crop failure due to market.

Crops with the lowest cash return such as sweet corn and baking beans are usually the low labour crops. If you are short of land and have appropriate labour, usually only the high value specialty crops are considered.

For those with roadside markets, certain crops are planted as drawing cards. Late sweet corn varieties, melons, leeks, Brussel sprouts, broccoli, cauliflower, tomatoes and squash are examples. The consumer demand is usually much smaller for some of these and labour requirements may be 5 or 6 times greater. Problems may be encountered such as too fast ripening for good market absorption when the weather becomes hot, or too slow when it is cool. Other vegetables, such as fresh market cucumbers and tomatoes, have higher returns per acre than melons, but also have a much lower market demand. Most truck garden crops have severe market limitations during the peak harvest season. The production of crops earlier than the peak market offerings and later than those offerings are generally more successful depending on the specific crop demand and supply pattern.

Fresh market vegetable producers can specialize in one crop but usually the need for land for rotations becomes a problem. Several crops may be managed so that an income is produced over a longer period of time. Processing vegetable producers will probably specialize since they need much larger acreages both to gain a contract and to justify the required capital cost for equipment.

Fresh market crops are very labour demanding and one should derive much pleasure from the growing of such crops before contemplating commercial production. It will probably take at least 5 years to learn some of the most up-to-date production technology and gain the management experience to be able to handle a crop efficiently. Small acreages of well managed crops can be very profitable compared to larger acreages where there have been management failures. The major element of success is a driving force to perfect the production technology to equal or surpass that of the competition, while protecting and nurturing markets. Of course there must be price levels that will quickly lead to profitable production.

References:

Vegetable Production Guide for the Atlantic Provinces, prepared by Atlantic Provinces Advisory Committee on Vegetable Crops.

Other information on farm management and marketing available from Vegetable Specialist, Farm Management Specialists, and Agricultural Representatives.

Courses:

A Home Study Course in Commercial Vegetable Production, Parts I and II. For information on this course or other vocational courses contact the Vocational Office, N.S.A.C. Truro.

Field Crops

The usual field crops produced in Nova Scotia are field corn, small grains (wheat, barley, oats, winter wheat and rye), hay and pasture. Potential cash returns for field crops in general are lower per acre than for other more intensively grown crops. However, due to a lower labour requirement, no need for irrigation, and a lower cash outlay for seed and planting supplies, a farmer can usually handle more acres of field crops than vegetable or fruit crops. Thus, if enough acreage is available, total farm returns may be as great from field crops as from other types of crops. However, a potential field crop producer may require a much higher capital investment for planting and harvest equipment to obtain this return.

Two other advantages of a field crop operation are: (1) it is easier to mechanize, and (2) field crops can be marketed in the open market or fed to livestock on the farm. The main disadvantage is the requirement of a relatively large acreage either to justify the capital outlay for owning equipment, or to obtain custom operators to plant and/or harvest the crop(s).

Among the field crops, corn has the highest potential dollar return; unfortunately outside the Annapolis Valley grain corn is a risky proposition because of the short season. Much of the province is unsuitable even for silage corn. Sales of silage depend on local markets with livestock feeders and demand may vary from year to year. The range in potential net cash return is $50-$500/ha depending on yield and price for grain and silage.

Small grains such as wheat, barley and oats have two saleable crops (grain and straw) and have a potential net cash return range of $50-$250/ha depending on yield, price and whether the straw is harvested and sold. Winter grains such as wheat and rye, grown on better drained and protected sites, offer slightly higher returns as their yield and price are usually greater than spring grains. Location of the farm is important to the sale of all grains as hauling long distances to central elevator systems soon eats into potential profits. Sales to local livestock farmers or feedlots may be one alternative.

Returns from sales of forage crops such as hay are very much dependent on local demand although a small export market exists some years. Quality forage production demands managerial decisions on timing of harvest and fertilization. Market demand for high quality hay is less variable from year to year than for poor hay.

Labour for field crops ranges from a low of 10 to 15 hours per ha for small grains to a high of 20 to 38 hours per ha for corn and hay.

Because of the rolling fields and variable soils that are common in most areas of Nova Scotia, farmers would do best to select a combination of two or three types of field crops suited to the area where the farm is located.

References:

Field Crop Guide. Atlantic Field Crops Committee, Pub. No. 100

Field Crop Variety, Weed and Pest Control Recommendations for the Atlantic Provinces. Atlantic Field Crops Committee, Pub. N. 100 A.

Lowbush Blueberries

If lowbush blueberries are growing naturally on your farm, it is probable they can be developed over a period of time into a profitable cash crop. Development may involve such things as bush and weed control on old fields or pasture, or the clearing of trees, stumps and brush from wooded areas with blueberry undergrowth. After initial development, management will involve pruning; fertilizing; disease, insect and weed control; providing bees for pollination; and, of course, harvesting the crop.

The first thing to determine is whether you have sufficient native plants to develop a commercial enterprise. Agricultural extension workers or established growers will be able to give advice on the commercial feasibility of your acreage.

If commercial development is considered feasible, the project should be evaluated in terms of expenses vs. returns for a ten-year period. Lowbush blueberries are a long-term crop and estimated yields and returns over a ten-year period must be weighed against development and operational costs during this period to determine the economic feasibility of the venture.

If development is considered feasible, there is considerable assistance available to a new grower. In most areas of the province custom services are available for burning or pruning the plants and applying the required sprays for disease, insect and weed control. Such services are usually provided by a large established grower or buyer who has the required equipment. Sometimes these individuals even provide a custom harvesting service. Your local agricultural representative will be able to put you in touch with custom operators in your area. The Blueberry Producers' Association of Nova Scotia also provides information and assistance to new growers.

Lowbush or "wild" blueberries provide one of the highest net incomes of any agricultural crop. The industry is well organized and its promotion efforts in recent years have resulted in good market demand. Nova Scotia has modern processing facilities which are anxious to handle the crop and pay top prices for good fruit. There is a good marketing network of buyers located throughout the province. There are also opportunities in many counties for the development of fresh market outlets.

References:

Lowbush Blueberry Production. Agriculture Canada, Pub. 1477.

Survey of Potential Lowbush Blueberry Acreage in Eastern Nova Scotia. N.S.D.A.M.

Reflections and Recollections on Raising Blueberries in Nova Scotia, by Rev. T. A. Meister. N.S.D.A.M.

Lowbush Blueberry Production and Marketing in Nova Scotia - Situation Report, by Jack Sibley. N.S.D.A.M.

Harvesting Lowbush Blueberries. N.S.D.A.M.

Some Facts and Figures on Nova Scotia's Lowbush Blueberry Industry. N.S.D.A.M.

Pruning Lowbush Blueberries - Principles and Practices.

Honey Bees and Blueberry Pollination, by Amr Ismail. University of Maine, Cooperative Service, Bulletin 629

Atlantic Provinces Protection Guide - Lowbush Blueberry. Atlantic Crop Protection Committee, Pub. CF 78-3

Atlantic Canada Lowbush Blueberry Weed Control Guide.

Courses:

For information, contact the Vocational Office, N.S.A.C., Truro.

BERRY CROPS AND OTHER SMALL FRUIT

Berry crops have a high potential cash return per hectare compared to most other crops. Even a small holding can provide a family with extra income. However, small scale operations require a large amount of manual labour and are most difficult to mechanize, particularly for weed control.

In general, capital investment for berry crops can be quite expensive. A part-time farmer must realize that he may have to invest in almost as much equipment as a full-time farmer, even for an area as small as a hectare in size.

The net cash return will depend on the size of the operation; cash expenses for such items as plants, lime and fertilizer;

depreciation on equipment; interest charges; labour costs, yields and markets. In order to fully evaluate berry crop operations it is necessary also to accumulate costs of establishment along with interest charges, each year, up to the time of first harvest. These accumulated costs must be repaid over the number of years of harvest expected.

Strawberries and raspberries are quite adaptable to most areas of Nova Scotia and grow best on well drained, loamy soils with a pH of 5.3 to 6.5. Irrigation is essential for commercial production of strawberries and desirable for raspberries.

Strawberries produce a commercial crop in their second year and on the average have two to three harvest years. Good management and careful attention to weed control have an important bearing on the number of harvests obtained. Raspberries produce a commercial crop in their fourth year and may have 10 harvest years.

A fully mechanized one hectare strawberry or raspberry operation requires 775 hours of labour up to the first year of harvest. After the first year of harvest, annual maintenance time will be 325 hours per hectare of strawberries and 375 hours per hectare of raspberries. If a grower cannot afford all the machinery required, the labour costs will increase. The maintenance labour required for one hectare of strawberries using limited equipment may be as high as 1,500 hours up to the first harvest.

The establishment costs for one hectare of strawberries up to the first year of harvest is in the area of $6,750. The net cash return will range up to $3,750 per hectare.

Raspberries may have the highest potential net cash return with a range of up to $5,000 per hectare, but establishment costs are $10,750 per hectare and this would be expanded to $13,750 when interest costs are compounded.

Highbush blueberries require an acid soil with a pH in the 4.8 to 5.0 range. They are only adaptable on well drained loamy soils in western Nova Scotia. They have an establishment cost in excess of $12,500 per hectare due in part to the high cost of plants and the fact that there is very little production until the fifth year. However, they may have as many as 30 harvest years.

The markets for all berry crops must be decided upon prior to planting. The U-Pick market for strawberries is at the saturation point in the Annapolis Valley. The U-Pick market for other berry crops is quite good across the province.

There are good market opportunities in U-Pick and the fresh market for part-time farmers in specialty crops such as gooseberries, red and black currants, and raspberries. They are as adaptable as strawberries but do not have the volume demand as do strawberries. Grapes for fresh market have some limitations both in growing areas and local demand. Check with your Provincial Department of Agriculture for varieties recommended for the region or locality.

References:

Strawberry

Strawberry Culture in Eastern Canada, by Dr. D.L. Craig. Agriculture Canada.

Growing Strawberries in Eastern Canada - Insects. Agriculture Canada, Pub. No. 1174

Strawberries - Recommended Varieties, by R.A. Murray. N.S.D.A.M.

Nova Scotia Certified Nurseries. N.S.D.A.M.

Atlantic Provinces Protection Guide - Strawberries. Atlantic Crops Committee.

Guide to Chemical Weed Control for Strawberry Production in Atlantic Canada. Atlantic Crops Committee.

Strawberry Fertilizer Recommendations for the Atlantic Provinces. Atlantic Crops Committee.

Mulching of Strawberry Plants, by R.A. Murray. N.S.D.A.M.

Estimating Production Costs for Atlantic Strawberry Enterprises, by Hanlon and Hamilton. Agriculture Canada.

Raspberry

Growing Red Raspberries in Eastern Canada, by Dr. D.L. Craig. Agriculture Canada, Pub. No. 1196.

Red Raspberry Cultivars for Eastern Canada, by D.L. Craig. Agriculture Canada.

Nova Scotia Certified Nurseries. N.S.D.A.M.

Raspberries - Recommended Varieties, by D.L. Craig & R.A. Murray. N.S.D.A.M.

Atlantic Provinces Raspberry Protection Guide. Atlantic Crops Committee.

Guide to Chemical Weed Control in Raspberries and Highbush Blueberries, by Allan Grant. Agriculture Canada.

Currants and Gooseberries

Cultural Fact Sheet, by Dr. Ricketson. O.M.A.F., Pub. No. 76-034.

Home Garden Protection Guide. Atlantic Crop Committee.

Highbush Blueberries and Elderberries

Highbush Blueberry Culture in Eastern Canada, by D.L. Craig. Agriculture Canada Pub. 1279

Commercial Highbush Blueberry Protection Guide. Atlantic Crops Committee.

Guide to Chemical Weed Control in Raspberries and Highbush Blueberries. Atlantic Crops Committee.

Elderberry Culture in Eastern Canada, by D. L. Craig. Agriculture Canada.

Courses:

Contact Vocational Office, N.S.A.C., Truro.

CHRISTMAS TREES

About 95% of Nova Scotia's Christmas trees come from cultured, natural stands of Balsam fir. The remaining 5%, mostly Scotch pine and Balsam fir, are grown in plantations.

The advantage of a natural stand is that most people have some land in their woodlot that is capable of supporting Christmas trees. Once the initial clearing takes place, in two or three years a return on investment will begin. The biggest disadvantage is that not all natural stands are well stocked, in which case additional planting is necessary.

The advantage of a plantation is that it is extremely easy to manage once it is established. The disadvantage is that there is a continual investment of time and money until the trees are harvested.

Whether you develop a natural stand or plantation will depend on the type of land at your disposal. Here are some factors to consider:

1) If you have to buy land, it will cost $125 to $250 a hectare for cutover land and $250 to $1,250 for cultivated land.

2) How accessible is the cutover land and what is the per cent of balsam fir stocking? If there are old fields, are they run out? If so, you may have to add lime and fertilizer, then plough, harrow, and plant a cover crop to get the soil ready for a plantation.

3) If you are culturing a natural stand, the first step is to remove competition from other trees and shrubs. This costs $500 to $625 a hectare. If the stand is understocked, there will be an additional expense for planting seedlings.

4) Seedlings for plantations or for restocking natural stands can be purchased at a price of $150 to $350 per 1,000. An alternative in the case of balsam fir seedlings is to pull wildlings and raise them in your own nursery - a process which takes two years. Planting costs range from 15¢ to 40¢ per tree.

5) In natural stands hardwoods, weeds and grass must be controlled by annual cutting, or by herbicides applied every two or three years. Weeds and grass must be controlled around the trees in a plantation and in addition, the rows between the trees must be mowed at least once a year or more often to eliminate competition, reduce the fire hazard and prevent a build-up of the rodent population.

6) After weeds have been controlled, fertilize every second year.

7) When trees reach a height of 1.2 to 1.4 meters they should be basal pruned, then sheared annually until harvest (usually 3-4 seasons).

8) It takes 7-15 years from planting to harvest or from the time of opening up a natural stand until harvest.

9) For proper management and harvesting, a system of good roads 45 to 90 metres apart is necessary.

It should be clearly stated that success in Christmas tree production will not come to the person who looks for easy profit with minimum effort. It will require substantial amounts of labour, time, capital investment and certainly good management. At present there is an excellent market for top quality trees but the market for poor trees is becoming smaller every year. An oversupply is predicted three or four years down the road and only those growers who have taken the time and care to produce top quality trees will be able to market them.

References:

Managing Wild Balsam Fir for Christmas Trees - A Beginner's Manual, by Charles Christie. N.S. Department of Lands and Forests, Pub. No. 80/168.

Shearing Fir Christmas Trees, by G.T.C. Ernst and Gary Saunders. N.S. Dept. of Lands and Forests.

Higher Christmas Tree Profits by Fertilizing Balsam Fir, by LeRoy Wright. N.S. Dept. of Lands and Forests.

Guide to Handling and Planting Stock, by D.M. Levy. N.S. Dept. of Lands and Forests.

Common Insects and Diseases of Balsam for Christmas Trees, by Smith, Newell and Renault. Canadian Forestry Services, Cat. No. F047-1328.

Courses:

Contact the Vocational Office, N.S.A.C., or Christmas Tree Specialist, N.S. Department of Lands and Forests.

Editor's Note - Although Christmas trees are not usually considered an agricultural crop they have been included in this publication because of their potential importance for part-time farmers. Unfortunately time did not permit their inclusion in Table A. Pulpwood and sawlogs are other possibilities. For advice on woodlot management and development, consult your local office of the Department of Lands and Forests.

SOD, ORNAMENTAL TREES, CUT FLOWERS AND EVERGREENS

Sod

Opportunities exist to grow sod as a part-time business provided you have: a) a market b) approximately ten hectares of well-drained loamy soil and c) some access to machinery.

The growing of sod or turf grass requires an assured market because the grass requires regular mowing and cannot economically be kept longer that two years. Five hectares of sod is seeded the first year and an additional five hectares is needed the second year. The third year a crop is harvested and the land reseeded. Usually 3,000 square meters of sod is harvested from one-half hectare of land. In 1982 this sod sold for eighty cents (80¢) per square meter.

The land required is a well-drained loamy soil, relatively stone free. Two years of growing time are needed so the sod will have a knitted root system that allows rolling at harvest time. Exceptional growing conditions and irrigation may reduce the growing time to one year. Properly grown sod will return as much organic matter to the soil as is removed with the grass root system at harvest time.

You will need access to a tractor, plows, harrows and a brillion seeder and if you harvest the crop, a truck, loader, pallets and a sod cutter.

The big market for sod in Nova Scotia is the Halifax area and access to it is through landscape contractors. The local market consists of landscape projects, home lawns and local landscapers.

Sod is used in home lawns, recreational fields, commercial business lawns, beautification projects, tree lawns (between sidewalks and street), highway interchanges, and many other places.

Large Caliper Ornamental Trees

Opportunity exists to grow large caliper (over 7.5 cm trunk diameter) trees for the nursery and landscape trades in many parts of the province. These trees may be grown over a number of years or, by buying in tree whips, can be grown to saleable size in half the time. Again some trees can be grown from seed, particularly evergreen trees. If you have half a hectare of well-drained loamy soil, you have the land requirement.

Markets are developed through landscape contractors. The main market is in the Halifax area. These so-called instant trees are used in many other parts of the province as well.

Trees do not require a lot of care. They are planted in rows wide enough to admit machinery and spaced 60 cm apart in the rows. As they get larger, every other tree is removed and sold or replanted. The value of a large tree with a balled root system can be in the hundreds of dollars. Currently these trees must be imported from Ontario so an opportunity exists to supply some of this market.

Cut Flowers

Many people are now growing glads, dahlias, annuals and perennials outdoors, for sale as cut flowers, or for other uses such as arrangements or dried flowers.

This can be done cheaply using any area with good, well drained garden soil and with relatively little cost except for the seed and bulbs. Little machinery is needed. However, some means of watering or irrigation is required.

You need to find a market or develop one by specializing in this field and promoting sales. Roadside markets, weddings, florist shops, dried flower arrangers are all possible markets, as well as individuals. You may even wish to develop your own sales' outlet.

The crop requires some management and planning and can be developed into a yearly cash income. Little data is available on prices because of the new aspect of this venture. Generally cut flowers sell for $1.50 to $4.50 per dozen wholesale, depending on quality and type.

Evergreens

The growing of evergreens (shrubs and some trees) offers an opportunity in a limited way if one has the ability to sell these plants by finding or creating a market. The main markets are landscape contractors, garden centers, roadside stands and individuals.

Mature saleable stock is generally 60-90 cm or more and may sell for eight to twelve dollars or more per plant, wholesale.

Plants reach saleable size in five years under favourable growing conditions but may be sold earlier or later depending on the marlet. Growing from seed takes longer but may cost less. Propogating some material from cuttings may also save money.

If you have land which is reasonably stone free and a loamy type soil (approx. ¼ to ½ hectare), you can consider growing evergreens. Pick a limited number of types - six varieties at the most. These should include globe, pyramidal and spreader types. Then grow approximately a hundred of each per year, repeating this for several years. By the third year you can begin selling. Evergreens may be kept for eight years before selling if necessary. You may buy in two year old plants called liners. "Liners" generally cost 75¢ to $1.25 per plant.

Definition of Terms Used in Table A

Decision & Responsibility - How important is it for labour to be able to make some daily decisions and accept some management responsibility?

Peak Season - Over 60% of labour and the most intensive management required for time listed.

Man Hours/Unit - For annual crops, man hours would be for growth period - for perennial crops, man hours are those per year.

% Manual - Lower figure represents the per cent of work that must be done manually and higher figure represents the per cent that could be done manually.

Management - The amount of management attention required by a crop to be successful varies from intense to intermit (some periods of intense and some of low management attention) to average to low.

Land Quality - "Special" means that some special quality is necessary in the soil or location that is not necessarily related to the productive capacity of the soil.

Market Limitations - can be due to limited market demand or perishability of product ("yes" indicates a rather severe limitation, "some" means the limitations will occur during certain times and for certain uses, "possible" means the limitation is there but is not very strict).

First Crop - Time from planting until harvest of first saleable crop.

Establishment Cost - Total establishment cost per hectare, from pre-planting until first harvest season.

Gross Cash Return - To determine net farm income (return to management, labour and capital) deduct cash expenses and all fixed costs including depreciation from gross cash return.

Number - of plants or trees per hectare, or amount of seed.

Table A - A Comparison of the Requirements for some Crop Alternative for Part-Time Farmers [15]

	Apple	Maple Products	Bedding Plants	Sweet Corn	Tomato	Rutabagas	Cabbage
Unit	hectare	tap(s)	100 m^2	hectare	hectare	hectare	hectare
LABOUR							
Timeliness	important	important	important	important	some	some	some
Dec. & Resp.	some	some	some	slight	little	slight	little
Peak Season	May, Sept-Oct	March-April	Feb-July	Aug-Sept	Aug-Oct	July-Oct	July-Nov
Man Hours/Unit	200-250	0.15-0.2	600-1,000	123-246	490-1230	370-494	500
% Manual	30-50	11-14 min.	75-100	10-70	20-70	30-60	50-70
MANAGEMENT	intermit	intermit	intense	low	average	average	average
LAND							
Quality	special	special	art. mix	variable	fair	fair	good
Drainage	well	well	well	variable	well	well	well
Topography	variable	hilly		variable	level	variable	rolling
MARKET							
Limitations	possible	special	seasonal	possible	some	some	some
Type	multiple	multiple	multiple	multiple	multiple	multiple	multiple
CAPITAL							
First Crop	3-5 yr.		2-6 mo.	3 mo.	3-4 mo.	3 mo.	4-5 mo.
Equip. Inv. ($)	8,000-10,000[1]	8-10[4]	500-1,500[5]	2,400-7,400[6]	2,400-7,400[6]	2,400-7,400[6]	2,400-7,400[6]
Est. Cost ($)	4,700-7,000						
Cash Expense ($)	900-1,000	1.40	3,000-4,000	740-1,000	3,200-4,200	2,700-3,200	3,000-5,000
Gross Cash Return ($)	3,000-10,000[3]	3.15	4,000-6,000	1,730-2,900	4,900-11,000	2,470-6,200	5,000-7,000
MIN. SIZE	2	10-16 ha	100 m^2	1	0.5	0.5	0.5
NUMBER	247-494	2,000		20 kg	12,350-24,700	300 g	300 g

Footnotes:
1 - for 2-6 hectares
2 - m^2 = square metres or 500 flats
3 - fresh fruit sales
4 - including evaporator house
5 - plus $3,000 - $10,000 for a structure
6 - for several hectares
15 - for definition of terms used in Table A, see page 26

Table A - A Comparison of the Requirements for some Crop Alternative for Part-Time Farmers (Con't)

	Potatoes	Field Corn	Winter Wheat & Rye	Spring Grains [8]	Hay	Lowbush Blueberries	Strawberries
Unit	hectare	hectare	hectare	hectare	hectare	hectare	hectare
LABOUR							
Timeliness	important	some	some	some	important	important	important
Dec. & Resp.	little	slight	slight	slight	little	some	some
Peak Season	July-Sept.	May, Oct, Nov.	July, Sept.	May, Sept.	May, Sept.	Aug.	May, June
Man Hours/Unit	250-370	17-39	10-15	10-15	20-25	62	325 [10]
% Manual	30-40	5-10	5-10	5-10	20-30	50	60-90
MANAGEMENT	intermit	average	average	average	average	intermit	intermit
LAND							
Quality	variable	variable	variable	variable	variable	special	good
Drainage	good	variable	good	variable	variable	good	well
Topography	rolling	level-rolling	rolling	level-rolling	level-rolling	variable	level-slope
MARKET							
Limitations	possible	possible	none	none	possible	possible	some
Type	multiple	multiple	multiple	multiple	local	processing, retail	multiple
CAPITAL							
First Crop	4-5 mo. [6]	4-5 mo. [7]	10 mo. [7]	3 mo. [7]	1 yr. [7]	2 years	1 year
Equip. Inv. ($)	12,350 +	2,500 +	2,000 +	2,000 +	4,000 +	125-250	30,000 [11]
Est. Cost ($)							6,750
Cash Expenses ($)	2,000-2,500	188-312	100-250	90-200	100-200	625 [9]	6,750
Gross Cash Return ($)	2,000-3,700	310-800	225-760	200-640	200-500	625-5,000	8,750-11,250 [12]
MIN. SIZE		4	4	4	20	0.5	0.5
NUMBER	2,200 kg						11,000

Footnotes:
6 - for several hectare
7 - for minimum size
8 - oats, barley, wheat
9 - includes custom burning
10 - annual maintenance, fruiting year
11 - for 4 ha, including irrigation equipment
12 - based on yields of 12,500 - 17,500 qts./ha

Table A - A Comparison of the Requirements for some Crop Alternative for Part-Time Farmers

	Raspberries	Sod	Large Caliper Trees	Cut Flowers[14]	Evergreens
Unit	hectare	hectare	hectare	hectare	hectare
LABOUR					
Timeliness	some	very important	not important	very important	important
Dec. & Resp.	some	some	some	some	some
Peak Season	April, July	April - Dec.	April-Oct.	June-Sept.	April-Sept.
Man Hours/Unit	375[10]	low	low	high	medium
% Manual	60-100	25	20	50-70	30
MANAGEMENT	low	intermit	intermit	intermit	intermit
LAND					
Quality	good	stone free loam	loam	loam	stone free, sandy loam
Drainage	well	well	well	well	well
Topography	level-slope	rel. level	variable	variable	variable
MARKET					
Limitations	yes	some	some	some	some
Type	retail, U-pick	multiple	multiple	multiple	multiple
CAPITAL					
First Crop	3 years	2-3 years	5-10 years	first year	3-5 years
Equip, Inv. ($)	30,000[11]	10,000 +	2,000 +	1,000-2,000	2,000 +
Est. Cost ($)	10,750				
Cash Expenses ($)	7,000				
Gross Cash Return ($)	8,000-12,000[13]	1,000	50-200/tree	1.50-4.50/doz.	8-12/plant
MIN. SIZE	0.5	5-10	0.5	0.5	0.25
NUMBER	5,000		200		500-1,000

Footnotes: 10 - annual maintenance, fruiting year
11 - for 4 ha, including irrigation equipment
13 - based on yields of 10,000-15,000 pints/ha
14 - field grown

CHAPTER 5

Management Decisions for Crop Farmers

When a crop enterprise has been chosen, there are then several major decisions to make:

1) Selection. The manager must not only select the type of crops to raise but also the variety or varieties. This decision must be made on the basis of information about soils, weather patterns, and the available markets.

2) Drainage. Many Nova Scotian soils require drainage in order to give maximum crop yields. Although drainage can be a major capital cost, it is something which should be carefully considered and the advantage weighed against the crop to be grown. For further help consult your agricultural representative.

3) Crop Rotation. The rotation selected must provide reasonable protection from soil erosion. Rotations can also help control insect pests, diseases and weeds, as well as help maintain soil structure and fertility.

4) Cultural Practices. Planting and harvest times, adequate fertilization, incorporation of organic matter, good varieties, and proper spray programs are important in the ultimate yield and return of crops. Corn yields can be increased by planting at the right time. The value of a hay crop can be doubled by harvesting at the right maturity. Fresh market fruits and vegetables can be harvested at various stages of maturity. The manager must decide which stage will sell best in his particular market.

5) Capital Purchases. The manager must explore several alternatives, ask a lot of questions, and answer many of them before making capital purchases. For example, "Should I own or hire certain pieces of equipment and why?"

One last thought. As you develop your enterprise, don't be afraid to ask someone who knows the business to come to your farm and give you an honest appraisal as to how you are doing. That person could be someone from the Department of Agriculture and Marketing or it could be an experienced farmer. This step is especially important if you are new to the enterprise you have chosen. Asking for criticism takes courage. But in the long run it can pay you rich dividends in the form of a more successful operation.

CHAPTER 6

Advantages and Disadvantages of Various Livestock Enterprises

A summary of the requirements, costs and returns, and minimum size of each enterprise is given in Table B at the end of this chapter. Caution is needed in interpreting this table, especially the dollar figures, since circumstances can vary greatly from farm to farm, and market prices fluctuate. However, the figures should be useful at least as a starting point, providing food for thought when a person comes to grips with the realities of a particular enterprise.

Sheep

Sheep should play a more important part in Nova Scotia's agriculture. Climatic conditions allow the region to produce excellent pasture. Features such as stoniness, topography and remoteness from market, which hinder many other enterprises, are lesser impediments to sheep raising.

This is not to say that sheep do better on poor land than good. They respond to systems which use intensive management of pasture and other forage crops on some of our better soils. There are even possibilities for confinement rearing.

Before becoming involved in sheep raising, every prospective flock owner should consider the following factors: the type of farm available - especially the amount of cleared land, the soil series (soil type), whether or not the soil is "run out" or eroded due to neglect, and the condition of the buildings; cost of breeding stock; climatic conditions; and availability of markets. Most important of all, what type or breed of sheep is best suited to the owner's management ability, to his farm and to available markets.

Too many people have been lured into sheep production by claims concerning the ease with which sheep can be raised. A successful operation depends upon the ability of the owner to master production techniques. These require sound technical knowledge and the learning of a number of skills. The novice should start with a small flock. After experience has been gained and production methods mastered, flock size may be increased so as to provide a major source of income.

Producers have a number of ways to sell their lambs - local auction market; live, farm gate sales to drovers; farm gate freezer trade; or shipment to Montreal and Toronto. But in past years, marketing has been fragmented and the problem has been to receive a fair return for the product. An effort is being made now toward organized marketing of lamb through chain stores. The future will depend on how well producers will work together to develop this marketing system.

References:

Home Study Course in Basic Sheep Production available from the Vocational Office, N.S. Agricultural College, Truro.

Courses:

For information on the five day Basic Sheep Husbandry course, contact the Vocational Office, N. S. A. C., Truro.

Swine Enterprises

It is generally recognized in Nova Scotia that a 40-60 farrow-finish hog unit is a full time one man operation with varying amounts of family labour. A part-time operation would therefore be defined as a unit of somewhat smaller size. Whatever the proposed size, the establishment of a hog enterprise by a part-time farmer should be thoroughly studied before proceeding. Considerations should be given to such factors as:

1) A minimum size of 15 sows is required to warrant the full use of a performance tested boar. The possible spreading of disease prohibits the excessive movement of breeding animals from herd to herd.

2) Investment per sow can sometimes be just as high or higher for a small unit than for a larger scale operation because of building and equipment costs. For maximum production a proper environment is necessary. Buildings should be clean, dry and warm, free from draft, but properly ventilated.

3) Attention must be given to sufficient land base for manure disposal, and proper location relative to neighbours and urban areas.

4) The raising and selling of weanling pigs versus raising through to market weight is an important consideration. It is generally more profitable to raise to market weight. However, pick-up of market hogs at the farm gate is usually restricted to 10 or more on a regular basis.

5) Feeder hog operations prefer buying weanling pigs on an assured and regular basis directly from weanling hog producers.

6) Because of disease risk by bringing pigs together from many different sources, auction selling meets with general resistance from good feeder hog operations.

7) There can be a local market for small numbers of weanling pigs especially in the spring. But usually other arrangements have to be made for the sale of the remaining pigs.

8) Considering items 4 to 7 above, it is obvious that the ability to market either weanling pigs or market hogs on a continuous and regular basis is most important. Long term market potential should be carefully considered and clearly evident.

In summary, with good management, there is a place for the part-time farmer in a hog enterprise. There is also an opportunity for a part-time operation to grow to a full-time production unit. However, the prospective farmer is well advised to discuss his plans with successful producers of different sizes already in the hog raising business.

Footnote to Table B - Capital costs, cash expenses and returns are based on 1981 conditions. The figure of $138 as cash return per market hog indicates low market prices that year. The profit margin over a several year period would be higher. The figure also represents an average for farms surveyed. There was extreme variation in costs and returns reflecting in part differences in management.

References:

Feeding Guide for the Atlantic Provinces. Sub-Committee of the Atlantic Provinces Livestock Committee. Pub. No. 400.50.

Swine Production & Management. Agriculture Canada. Pub. No. 1442.

Estimating Costs of Swine Production. Agriculture Canada. Pub. N. 1474.

Swine Diseases. Agriculture Canada. Pub. N. 1484

Pig Farming. Pig Farming, Wharfdale Rd., Ipswich IPI 4LG, England. $36.00 U.S.

Pork Producers Reference. Livestock Division of Vance Publishing Corporation, 7950 College Blvd., Shawnee Mission, KS 66210, U.S.A. $15.00 U.S.

Vocational Courses:

For information about courses on Swine Farm Management, Swine Herd Operation and Swine Artificial Insemination, contact the Vocational Office, N. S. A. C., Truro.

Beef Enterprise

There are several beef enterprises from which to choose. The cow-calf operation is basic to other operations. It has a weaned calf as its saleable product. Usually, this means the production of a beef calf weighing 180-270 kg at seven to nine months of age. This calf can then be sold as a feeder calf to someone else for finishing or it can be kept through the first winter for future finishing by the owner. Some are also sold as yearlings for finishing by another operator.

A feed lot operation is usually a more specialized type of beef enterprise and must be based on a good feed production program. Producers of finished steers purchase 180-365 kg feeders and feed them to a finished weight of 450-550 kg. A similar program can also be carried out on pasture where cattle are purchased in the spring and finished on grass with or without supplemental grain feeding.

Beef enterprises have relatively low labour requirements and can make use of family labour. Capital investment must be kept as low as possible. The use of good home-grown forage is essential to reduce feed costs.

Beef enterprises usually have a low return per unit. They require fairly large acreages of land to be feasible unless they are combined with other farm enterprises. Many beef units have developed as a complementary enterprise with hogs, orchard or poultry. In addition, many people engaged in beef farming also have seasonal or full time employment off the farm.

References:

Beef Production in the Atlantic Provinces. Agriculture Canada. Pub. No. 1494

Pasture Production and Utilization in the Atlantic Provinces. Atlantic Field Crops Committee and Atlantic Provinces Livestock Committee. Pub. No. 135.

Field Crop Guide - Atlantic Provinces. Atlantic Field Crops Committee. Pub. No. 100.

Soil Fertility Guide. Advisory Committee on Soil Fertility. Pub. No. 535-81.

Italian and Westerwolds Ryegrasses - Performance, Management and Use. Advisory Committee on Forage Crops. Pub. No. 136.

Feeding Guide for the Atlantic Provinces. Atlantic Provinces Livestock Committee.

Fur Enterprises

The three major types of fur enterprises in Nova Scotia are mink, fox and chinchilla. Any of these can be started by a part-time farmer, until numbers increase to a full time operation. They require little labour except at breeding and pelting time if feeding a commercially made pellet. More labour is needed if an on-farm produced ration is fed.

When starting on a part-time basis a commercial pellet is reccommended for the above reason. Also, the cash outlay for a wet feed operation is much greater and not feasible for the beginner. The initial costs are breeding stock, and sheds to house the animals. The land base required is small compared to other livestock enterprises.

Fox and mink are housed from the elements, but there are no controls for temperature and humidity. In the case of chinchilla, temperature and humidity have to be regulated somewhat and additional equipment is necessary. It is also common that a guard fence be placed around the fox compound to keep both unwanted animals out and foxes in. Up to the present, guard fences have not been commonly used in Nova Scotia for mink but this practice may change in the future because of the possibility of theft. Chinchillas are usually housed in closed buildings. The animals' wastes have a very noticeable odour, so good manure removal practices are a must. Also, the land should be well drained for both sanitation and disease prevention.

Labour requirements are high at breeding and pelting. All the animals are bred over a short period so many hours are spent to accomplish this. The entire year's crop of fox and mink has to be pelted and sent to the auction house in only a few days in late fall. However, chinchilla pelts can be removed year round and there is not a dense labour requirement at this specific time of year. Expertise is needed when pelting to insure quality. This service can be provided by custom pelting services until you acquire the expertise.

A good health program is a necessity when ranching all these animals.

It is strongly suggested that anyone considering raising fur-bearing animals should attend a short course and if possible, work for an established producer. This will give valuable experience in the proper methods of fur production which is in many ways unique in comparison to other livestock.

References

Contact the fur farming specialist, Livestock Services, N. S. A. C., Truro.

Courses

For information contact the Vocational Office, N. S. A. C., Truro.

Poultry and Game Bird Enterprises

Meat Birds

All commercial poultry with the exception of game birds come under the jurisdiction of Provincial Marketing Boards. These Boards regulate the number of birds on a premises and the amount of product marketed. The maximum number of birds allowed on a premises without coming under Marketing Board Regulations is 499 birds for either layer or pullet and 25 for turkeys. There is no production limit placed on broilers or roasters but quota must be held and a levy must be paid to be able to have these birds placed in the marketing system.

To produce or market above these numbers of birds, application must be made to the appropriate Marketing Board for quota. With a quota available, a levy must be paid per bird for the marketing in the marketing system. Unavailable quota discourages people from getting into poultry production in a commercial way.

Game bird enterprises are relatively few. Game birds such as pheasant can be raised for release in the wild for shooting, for supplying game reserves or for a specialized restaurant market. They have potentially higher return than meat birds, but adverse weather conditions, predators and poor management can reduce any potential profit. Markets or outlets should be explored before considering game birds.

A lot of part-time farmers raise a few broilers. Cost of building facilities, labour and additional capital requirements are low. But broiler and roaster production require large numbers to be profitable.

Turkeys also can be raised but require close attention to management to insure low mortality and steady growth of the birds.

Broilers, roasters, and turkeys have a potential gross cash return per 100 birds of $180-$230, $300-$400, $600-$800 respectively. These returns vary according to the pricing set by individual Marketing Boards. Variation in prices can be caused by reduced feed prices, over supply and price adjustment to prevent dumping of imported product.

Egg Production

There are many back yard farmers that keep enough laying hens to supply their own needs and their neighbours' egg needs. Labour is furnished by family members. With buildings available, capital investment is low. Daily sales give a regular cash flow. Gross cash return ranges from $18-$20 per hen.

Laying flocks, however, require daily chores and a considerable amount of labour throughout the year. With a clientel, eggs may have to be available on a regular basis, so some planning and co-ordinating are needed to adjust to egg production cycles. Again, Marketing Boards control egg production and marketing for flocks of 500 birds or more.

Raising pullets for egg production requires confinement facilities. Large numbers of birds are required to make it a profitable business.

References

Contact the poultry specialist, Livestock Services, N.S.A.C., Truro, or poultry specialist, N.S. Department of Agriculture and Marketing, Kentville.

Dairy Enterprises

The dairy enterprise, either milking cows or the raising of replacement heifers, does not lend itself to a part-time farming operation. The high cost of purchasing a small, viable unit is prohibitive. Dairy cows require intensive management, have an inflexible daily labour schedule and a high capital investment per animal. Added to the above statement is the fact that quotas to ship fluid milk or cream are not available for new entrants in the industry. To secure cows and quota, the purchase of an existing unit must be made, which in most cases is too large to consider as a part-time business.

The raising of dairy replacement heifers may look attractive to some part-time farmers. However, when calves are purchased at an early age and sold at 24-26 months as bred heifers or fresh cows, the cost of raising these animals is greater than the return,

when all costs are considered. Because of restricted quotas most dairy producers have room to grow their own replacements at home and the demand for heifers through sales is relatively low.

Since the dairy enterprise is not considered a viable enterprise for the part-time farmer, it has been left out of Table B.

Definition of Terms Used in Table B

Daily Schedule - How important is timeliness and how important is keeping a rigid daily chore schedule to the success of the enterprise?

Decision and Responsibility - How important is it for labour to be able to make some daily decisions and accept some management responsibility?

Peak Season - Usually requires more labour and more intense management. When does it occur, if ever?

Management - Each enterprise requires a different minimum level of managerial attention with intense as highest followed by intermit, average and low.

Market Limitations - May affect the supply - demand ratio which in turn would mean a less than economical price or a limited amount of saleable units at any price.

Capital Turnover - The length of time, measured in years, that is required to generate sufficient income to equal capital invested (land, buildings, machinery and livestock) in the enterprise. The ratio is total invested capital divided by total gross income.

Note - To determine net farm income (i.e. the return to management, labour and capital or equity), deduct all cash expenses and all fixed costs including depreciation, taxes and insurance from gross cash return (gross income).

Table B - A Comparison of the Requirements for Some Livestock Alternatives for Part-Time Farmers [1]

	Sheep	Sow	Market Hog	Beef Cow	Feeder Calf	Feeder Calf (purchased)
Unit	1 ewe	1 sow	1 pig	1 cow	1 calf	1 calf
LABOUR						
Daily Schedule	observation important	important	some	some	important	important
Dec. & Resp.	some	some	little	little	some	some
Peak Season	lambing	farrowing	none	freshening	young	young
Hours/Unit	2-3/yr.	30-40/yr.	1/period	6-12/yr.	2-3/period	2-3/period
MANAGEMENT	intermit	intermit	low	medium	average	average
LAND AREA	0.1-0.2 ha	0.1 ha	0.05 ha	0.8-1.6 ha cow calf	0.4 ha	0.4 ha
WATER/DAY	9-14 L	23-36 L	18-23 L	72-90 L	45 L	45 L
MARKETS						
Limitations	possible	possible	possible	yes	yes	yes
Type	local, regional	multiple	multiple	feeder sales	sales, plants freezer trade	sales, plants freezer trade
CAPITAL						
Turnover (years)	3-4	1	3/4-1	4-5	3/4-1	3/4-1
Bldg. Inv. ($)	50-150	200-800	30-60	400	200	200
Equip. Inv. ($)	0-50	100-600	20-60	400	200	200
Animal Cost ($)	60-100	170	44 [4]	500-700	none	300-400 [6]
Cash Expenses ($)	40-60	617	137 [3]	300-400 [5]	400-600	550-700
Gross Cash Return ($)	30-100 [2]	711	138		600-750	600-750
MINIMUM SIZE	10-20 ewes	15 sows	300 pigs	15 cows	15-100 calves	30-100 calves

Footnotes:
1 - for definition of terms used in Table B, see p. 38
2 - Based on sale of one lamb. The average lambing percentage for Nova Scotia is about 100%. A good manager should strive for 160% or higher.
3 - See footnote under section on Swine Enterprises earlier in this chapter.
4 - Includes cost of pig ($44)
5 - Sale of calf. The yearly calf crop is likely to average 0.8 calves per cow.
6 - Includes cost of calf ($300-400).

Table B - Cont'd

	Mink	Fox	Chinchilla	Broilers	Roasters
Unit	1 mink	1 fox	1 chinchilla	100 broilers	100 roasters
LABOUR					
Daily Schedule	important	important	important	important	important
Dec. & Resp.	little	little	little	slight	slight
Peak Season	Breeding, pelting	breeding, pelting	breeding pelting	usually	usually
Hours/Unit	0.1	0.1	0.1	3/period	4/period
MANAGEMENT	intermit	intermit	intermit	intermit	intermit
LAND AREA	0.3 m^2	2 m^2	0.2 m^2	0.14 ha	0.14 ha
WATER/DAY	450 mL	575 mL	450 mL	23 L	23-45 L
MARKETS					
Limitations	some	some	some	yes	yes
Type	international	international	international	Boards	Boards
CAPITAL					
Turnover (years)	3	3	3	1-2	1-2
Bldg. Inv. ($)	60-80/30 cm	150-250/pen	30-60/pen	200-300	200-300
Equip. Inv. ($)	10-50	10-50	10-50	40-50	40-50
Animal Cost ($)	100-150	300-400	100-125	35-60	35-60
Cash Expenses ($)	25-35	75-100	10-15	135-180 [7]	155-200 [7]
Gross Cash Return ($)	35-45	150-200	20-30	180-230	300-400
MINIMUM SIZE	2 mink	2 foxes	2 chinchilla	50 broilers	50 roasters

Footnote: 7 - Includes cost of birds
m^2 - equals square metres

Table B - Cont'd

	Turkeys	Layers	Pullets	Game Birds
Unit	100 turkeys	100 layers	100 pullets	100 game birds
LABOUR				
Daily Schedule	important	essential	important	important
Dec. & Resp.	some	slight	slight	important
Peak Season	usually	usually	usually	young
Hours/Unit	4-5/period	80-120/year	4-5/period	4-5/period
MANAGEMENT	intermit	intermit	intermit	intermit
LAND AREA	0.14 ha	0.14 ha	0.14 ha	0.14 ha
WATER/DAY	23-90 L	45 L	23 L	23 L
MARKETS				
Limitations	yes	yes	yes	no
Type	Boards	Boards	Boards	
CAPITAL				
Turnover (years)	1	1/2	1	
Bldg. Inv. ($)	300-400	200-300	200-300	200-300
Equip. Inv. ($)	40-50	50-70	40-50	40-50
Animal Cost ($)	100-200	350-400	70-80	125-250
Cash Expenses ($)	260-390 [7]	1350-1600 [7]	290-330 [7]	345-550 [7]
Gross Cash Return ($)	600-800	1800-2000	350-400	800-1100
MINIMUM SIZE	1 [8]	2 [9]	50 [9]	1

Footnotes: 7 - Includes cost of birds
8 - Maximum size 25
9 - Maximum size 499

CHAPTER 7

Management Decisions for Livestock Farmers

Management is probably the most important, but least used, resource in the farming business, especially by part-time farmers with limited farm-related experience. As a part-time operator, time for "farm work" is often so limited that the temptation is to do just the obvious jobs. Thus, a tractor is run until it breaks down and must be fixed because someone forgot or neglected to lubricate it, or an animal dies because the manager did not have time to observe his herd or flock.

Five of the major decisions a livestock farmer must make are:

1) Selection of animal. In choosing the initial and replacement animals one must decide: (1) which breed, (2) what quality, (3) the number to get, (4) health standards to follow in selection, (5) age and, if a breeding herd, open or pregnant females, and (6) where to buy them.

2) Feeding program. The manager must decide on the quantity and quality of feed and set up the feeding program.

3) Breeding. For breeding herds or flocks some decisions are: (1) selecting the service sire breed, (2) whether to use natural or artificial insemination, and (3) in the case of cows, whether to make a pregnancy check.

4) Culling. Even the best livestock operations can have unproductive or unprofitable units. Breeding herds or flocks can have "hard breeders," "poor mothers," low producers, and sick or overaged animals. Feeding operations can have stunted, sick, or slow growing animals. The manager must set culling standards that will assure a potential profit for the business.

5) Purchase of Capital Items. Capital expenditures are made with the anticipation of using the item for several years. The usual capital expenditures for breeding operations are for breeding animals, buildings, storages, and equipment. Decisions on the purchase of these items will have an effect on financial welfare for several years. When making such a decision the manager should answer a number of questions such as: (1) Is it feasible? (2) How will I pay for it? (3) Will it do the job? (4) Is the item really necessary for the success of the business? (5) Will the item increase the value of my property to the extent of the cost of the item? (6) Will the farm pay for it? and (7) What additional expenditure may be necessary to support the item if it is purchased?

Then there is the question of fencing. Most large animal enterprises require it. It is expensive to erect and maintain a good fence but it may be even more expensive to have poor fencing.

And finally, a word of advice given in Chapter 5 for crop farmers is repeated here for livestock farmers. As your enterprise develops ask someone who knows the business to come to your farm and give you an appraisal as to how well you are doing. This person can be an experienced farmer, or someone from the staff of the Dept. of Agriculture and Marketing. Ask pointed questions and look for honest answers. It is not easy to seek criticism especially if you are a part-time farmer with little experience. But in the long run such a step can pay you rich dividends in the form of a more successful farm operation.

CHAPTER 8

Farm Records, Taxes and Insurance

Farm Records

Records are essential to any business, including that of operating a farm. They are required for income tax purposes. Farmers who are seeking credit can use records to (1) determine if their business can justify the cost of the credit including the periodical repayments, and (2) substantiate their claims. Finally, records are useful when a farmer wants to make a decision. They can be used to provide information for farm business analysis (where the past performance of a farm business is evaluated), for cash flow budgeting (where the results of alternative decisions affecting the whole business are analyzed), and for partial budgeting (where the effects of a single change can be estimated).

A farm manager needs financial records such as income and expenses, depreciation and inventories. He also needs non-financial records such as livestock and crop production, livestock health, breeding and feeding records.

Income and Expense Records

All farmers should keep income and expense records for income tax purposes if for no other reason. Such records need not be complicated, but they should be complete. There are several good farm account books that have been developed to assist farmers in the record keeping function. Examples of these include: The Farm Account Book, a single entry system; the Ontario Farm Account Book and the Manitoba Farm Account Book, both double entry systems. All three of these books are available at Farm Management and Agricultural Representative's offices throughout Nova Scotia. The farm record keeper should select the one best suited to his or her needs.

In general, all expenses incurred in the production, handling and marketing of farm products should be recorded as farm expenses. Most farm account books provide a detailed listing of general farm expense categories with examples of the types of expenses to include under each heading. A list of the farm expense categories required for income tax purposes can be found in the Farmers' and Fishermans' Tax Guide, available at any Post Office or Regional Tax Office.

All income produced by the sale of farm products or by the use of farm labour, equipment and capital should be considered as farm income. The sale of capital items such as land or equipment is treated differently from the sale of products. A detailed listing of income items is available in most farm account books or,

for income tax purposes, in the Farmers' and Fishermans' Tax Guide noted above.

Depreciation

Depreciation is the expense method used by businessmen (including farmers) to spread the cost of certain capital items used in the business over a period of time. When an item is depreciated, a portion of the cost is counted as an expense in each year of its depreciable life. For income tax purposes, farmers must use the declining balance method of calculating depreciation. This method involves taking a portion or percentage of the remaining depreciated balance of the cost each year.

Items eligible for depreciation include all types of machinery and equipment, storages, buildings, and farm vehicles. A portion of the production quota may also be eligible. Capital items not eligible for depreciation include land.

Farmers wishing assistance in selecting and setting up an Accounting System should contact their Agricultural Representative's office.

Tax Considerations for Part-Time Farmers

Income Tax regulations as they apply to farmers are somewhat different than those which apply to the average business. Many people who understand income taxes in general can become confused when confronted with the tax rules as they apply to the farm sector. Farmers, including part-time farmers should know enough about the tax laws and special provisions available so that they can (1) keep a useable set of records, (2) know what information is necessary, and (3) understand enough about the forms so they can be reasonably sure their tax forms are being correctly filed.

There are special provisions in the tax rules for part-time farmers. However, care must be exercised in the interpretation and use of these provisions so that misuse does not occur. It would be wise to make use of the knowledge and expertise of a good farm tax accountant before filing a tax return.

There are a number of things that a part-time farmer should be aware of about income tax rules. These include:

1) The restricted farm loss provision of the Income Tax Act and regulations.

2) The National Revenue interpretation of what constitutes a part-time, hobby or commercial farm classification.

3) Certain expenses should be allocated between the farm and personal living for tax purposes. These would include utilities, automobile expenses, taxes and property insurance.

4) Wages paid by a farmer to his own children for actual farm work performed are a deductible expense. The farmer must keep proof that the payment was made (example - a cancelled cheque).

5) Farmers may file their income and expense statement for tax purposes either on the accrual or cash basis.

Some part-time farmers may qualify for exemption from the Nova Scotia Health Services Tax on items purchased for farm use. For further information and an application form contact the Provincial Tax Commission, 1723 Hollis St., Halifax, N.S. B3J 2V4. Some part-time farmers may also qualify for exemption from the provincial gasoline and diesel oil tax. This is handled by a separate office. For information contact the Provincial Tax Commission, Gasoline and Diesel Tax, 6061 Young Street, P. O. Box 2212, Halifax, N. S. B3J 3C4

Insurance

Farmers need casualty and liability insurance. Even small part-time farmers could suffer losses from fire or wind or have an accident involving other people or property. Shop around for the best policy at the most competitive price. Coverage should include buildings, building contents, equipment, livestock and crops. Liability insurance is necessary to cover (1) damage or injuries caused by the farmer's labour, equipment or animals and (2) injuries to people on the farm property that may be a result of the owner's possible negligence.

More details on insurance needs and costs are available in the publication "Farm Insurance", available from Agricultural Representatives' or Farm Management Offices of the Department of Agriculture and Marketing.

Nova Scotian farmers and their employees are eligible for coverage under the Workers' Compensation Act. The Act is designed to protect injured workers and also protect employers in respect to the workers who are injured. In the case of employees, the assessment is based on total wages paid. In the case of the farmer himself, he chooses an amount on which he will pay an assessment, regardless of his actual drawings. For further information contact the Workers' Compensation Board, P. O. Box 1150, Halifax, N. S. B3J 2Y2

Metric Conversion Table

Metric Units

cm = centimetre = one hundredth of a metre
g = gram = one thousandth of a kilogram
ha = hectare
kg = kilogram = 1000 grams
L = litre = 1000 millilitres
mL = millilitre = one thousandth of a litre
m^2 = square metre

Metric to Imperial

To convert from	Multiply by		Results in
____ ha	x 2.47	=	_____ acres
____ m^2	x 10.76	=	_____ sq. ft.
____ cm	x 0.39	=	_____ in.
____ m	x 3.28	=	_____ ft.
____ m	x 1.09	=	_____ yd.
____ L	x 0.88	=	_____ qt.
____ L	x 0.22	=	_____ gal.
____ g	x 0.03	=	_____ oz.
____ kg	x 2.2	=	_____ lb.